What is claimed is:

1. A method for simulation modeling where the simulation model includes individual blocks in a block diagram structure wherein each of the individual blocks include equation sets of a physical model, comprising the steps of:

configuring said blocks in a block diagram structure;

utilizing commercial simulation software to solve said equation sets of said blocks;

ordering said blocks in said block diagram structure to allow for waveform relaxation of sets of variables of said blocks; and

performing waveform relaxation of said sets of variables of said blocks.

2. The method of claim 1, wherein said step of ordering said blocks in said block diagram structure includes decomposing said block diagram into subsystems.

3. The method of claim 1, wherein said step of ordering said blocks in said block diagram structure includes identifying said sets of variables of said blocks.

4. The method of claim 1, wherein said step of ordering said blocks in said block diagram structure includes adding a low fidelity model of one of said blocks.

5. The method of claim 4, wherein said substep of adding said low fidelity model of one of said blocks includes deriving an error signal from an output of said one of said blocks and an output of said low fidelity model.

6. The method of claim 5, wherein said step of ordering said blocks in said block diagram structure includes accelerating convergence of said simulation model by processing said error signal.

7. The method of claim 1, wherein said step of performing waveform relaxation includes deriving a sparse interconnect matrix.

8. The method of claim 7, wherein said step of performing waveform relaxation includes weakly-coupling said equation sets.

9. The method of claim 8, wherein said step of utilizing said commercial simulation software includes running said commercial simulation software on a plurality of data processors.

10. The method of claim 9, wherein said step of running said commercial software on said plurality of data processors includes waiting until each of said commercial simulation software has completed calculations before transmitting interprocessor communications data.

11. The method of claim 1, wherein said equation sets change in subsequent iterations of said simulation model.

12. The method of claim 11, wherein said equation sets increase in fidelity in subsequent iterations of said simulation model.

13. The method of claim 1, wherein said step of performing waveform relaxation utilizes Gauss-Jacobi methods.

14. The method of claim 1, wherein said step of performing waveform relaxation utilizes Gauss-Seidel methods.

15. A computer readable medium having stored thereon instructions which when executed cause the computer to perform the steps of:

configuring said blocks in a block diagram structure;

utilizing commercial simulation software to solve said equation sets of said blocks;

ordering said blocks in said block diagram structure to allow for waveform relaxation of sets of variables of said blocks; and

performing waveform relaxation of said sets of variables of said blocks.